

## ABSTRACT

A substance adsorption detection method and a sensor utilizing amounts of change in the optical characteristic of a sensitive thin film with respect to the adsorbed amount of a substance to be detected. A clad 4, a core 5, and a thin film 7 for detecting an adsorbed substance are sequentially stacked on a crystal oscillator 10 to constitute an optical waveguide layer 12 and a gas adsorption member 11. An incoming light prism 8 and an outgoing light prism 9 are provided on the surface of the core 5. Changes in the adsorbed mass of the target substance and in the optical characteristic involved can be detected accurately and simultaneously by utilizing a change in outgoing light originating from a change in propagation loss and a change in the oscillation characteristic of the oscillator 10, both caused by adsorption of the target substance on the core surface.